Section I. (Amendment to the Claims)

1. (Currently Amended) A ~~ion-implanted photoresist~~ SCF-based removal composition, comprising ~~at least one supercritical fluid (SCF),~~ at least one co-solvent, and at least one reducing agent, wherein the at least one reducing agent comprises at least one of hydrogen gas, formaldehyde, formalin, boranes, diboranes, amine stabilized boranes, amine stabilized alanes, and tetraalkyl amines of BH_4 and AlH_4.

2. (Currently Amended) The removal composition of claim 1, comprising at least one supercritical fluid (SCF), wherein the SCF comprises a fluid selected from the group consisting of carbon dioxide, oxygen, argon, krypton, xenon, and ammonia.

3. (Currently Amended) The removal composition of claim [[1]] 2, wherein the SCF comprises carbon dioxide.

4. (Currently Amended) The removal composition of claim 1, wherein the co-solvent comprises a species selected from the group consisting of at least one straight-chain or branched C_1-C_6 alcohol and an amine.

5. (Original) The removal composition of claim 1, wherein the co-solvent comprises isopropanol (IPA).

6. (Currently Amended) The removal composition of claim 1, wherein the composition further comprises ion-implanted photoresist residue material ~~reducing agent comprises at least one of formic acid, hydrogen gas, formaldehyde, formalin, boranes, diboranes,~~

~~amine stabilized boranes, amine stabilized alanes, and tetraalkyl amines of BH_4 and AlH_4~~.

7. (Currently Amended) The removal composition of claim 1, wherein the composition is non-fluoride containing ~~6, wherein the reducing agent comprises formic acid~~.

8. (Currently Amended) The removal composition of claim 2 [[1]], wherein the SCF-based removal composition comprises about 60.0 wt % to about 90.0 wt % SCF, about 10.0 wt % to about 30.0 wt % co-solvent, and about 0.01 wt % to about 5.0 wt % reducing agent, based on the total weight of the composition.

9.-11. (Cancelled)

12. (Withdrawn) A method of removing ion-implanted photoresist from a substrate having same thereon, said method comprising contacting the substrate having the ion-implanted photoresist thereon with an SCF-based composition comprising ~~at least one SCF,~~ at least one co-solvent, and at least one reducing agent, for sufficient time and under sufficient contacting conditions to remove the ion-implanted photoresist from the substrate, wherein the at least one reducing agent comprises at least one of hydrogen gas, formaldehyde, formalin, boranes, diboranes, amine stabilized boranes, amine stabilized alanes, and tetraalkyl amines of BH_4 and AlH_4.

13. (Withdrawn) The method of claim 12, wherein the SCF-based composition comprises at least one ~~the~~ SCF ~~comprises a fluid~~ selected from the group consisting of carbon dioxide, oxygen, argon, krypton, xenon, and ammonia.

14. (Withdrawn) The method of claim [[12]] 13, wherein the SCF comprises carbon dioxide.

15. (Withdrawn) The method of claim 12, wherein the contacting conditions comprise pressure in a range of from about 1500 psi to about 4500 psi.

16. (Withdrawn) The method of claim 12, wherein said contacting time is in a range of from about 1 minutes to about 20 minutes.

17. (Withdrawn) The method of claim 12, wherein the co-solvent comprises a species selected from the group consisting of at least one straight-chain or branched C_1-C_6 alcohol and an amine.

18. (Withdrawn) The method of claim 12, wherein the co-solvent comprises isopropanol (IPA).

19. (Withdrawn) The method of claim 12, wherein the composition further comprises ion-implanted photoresist residue material ~~reducing agent comprises at least one of formic acid, hydrogen gas, formaldehyde, formalin, boranes, diboranes, amine stabilized boranes, amine stabilized alanes, and tetraalkyl amines of BH_4 and AlH_4~~.

20. (Cancelled)

21. (Withdrawn) The method of claim 12, wherein the SCF-based composition comprises about 60.0 wt % to about 90.0 wt % SCF, about 10.0 wt % to about 30.0 wt % co-solvent, and about 0.01 wt % to about 5.0 wt % reducing agent, based on the total weight of the composition.

22. (Withdrawn) The method of claim 12, wherein the contacting step comprises a cycle including (i) dynamic flow contacting of the SCF-based composition with the substrate having the ion-implanted photoresist, and (ii) static soaking contacting of the SCF-based composition with the substrate having the ion-implanted photoresist thereon.

23. (Withdrawn) The method of claim 22, wherein said cycle comprises alternatingly and repetitively carrying out dynamic flow contacting (i) and static soaking contacting (ii) of the substrate having the ion-implanted photoresist thereon.

24. (Withdrawn) The method of claim 12, further comprising washing the substrate, at a region at which the ion-implanted photoresist has been removed, with a SCF/isopropanol water wash solution in a first washing step, and with a SCF in a second washing step, to remove residual precipitated chemical additives in said first washing step, and to remove residual precipitated chemical additives and/or residual alcohol in said second washing step.

25. (Withdrawn) The method of claim 24, wherein the SCF comprises $SCCO_2$.

26. (Withdrawn) The method of claim 12, wherein the contacting conditions comprise temperature in a range of from about 50°C to about 90°C.

27. (Withdrawn) The method of claim 12, wherein the photoresist was exposed to a high-dose ion-implantation process, wherein the high-dose ion implantation rate is greater than 1×10^{15} atoms/cm^2.

28. (New) A SCF-based removal composition comprising at least one co-solvent, at least one reducing agent, and ion-implanted photoresist residue material.

29. (New) The removal composition of claim 28, wherein the reducing agent comprises at least one of formic acid, hydrogen gas, formaldehyde, formalin, boranes, diboranes, amine stabilized boranes, amine stabilized alanes, and tetraalkyl amines of BH_4 and AlH_4.

30. (New) A SCF-based removal composition consisting essentially of at least one SCF, at least one solvent and formic acid.

31. (New) A semiconductor device fabricated using the composition of claim 1.